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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/698,316	10/30/2003	William Davis	091-0144	9804

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EXAMINER

PHAN, DAO LINDA

ART UNIT PAPER NUMBER

3662

DATE MAILED: 11/16/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/698,316

Applicant(s)

DAVIS ET AL.

Examiner

Dao L. Phan

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 October 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-63 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 21-31 and 57-63 is/are allowed.
- 6) ☐ Claim(s) 1-20, 32-49, 51, 52, 55 and 56 is/are rejected.
- 7) ☒ Claim(s) 50, 53 and 54 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

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1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-20, 32-41, 49, 51-52, 55-56 are rejected under 35 U.S.C. 102(b) as being anticipated by Shoki (Pat. No. 6,308,085).

Shoki teaches a phased array antenna including a plurality of assemblies, each assembly including a plurality of elements and a plurality of digitally controlled centralized beam formers (col 2, lines 11-15; col 6, lines 8-17) coupled to respective ones of the plurality of elements.

With regard to claim 32, Shoki teaches a row assembly including a plurality of radiating elements 1-1 to 1-n, and a plurality of centralized beam formers (col 2, lines 11-15; 17) coupled to respective ones of the plurality of radiating elements.

With regard to claim 37, Shoki teaches a row assembly including a plurality of receiving elements (16; fig. 10), and a plurality of centralized beam formers (col 2, lines 11-15; 17) coupled to respective ones of receiving elements.

With regard to claims 49, Shoki teaches a method for distributing signals to a radiating element of a phased array antenna including generating a first signal representative of a plurality of signals of a first polarization (col 8, lines 4+) at a centralized beam former (col 2, lines 11-15), and distributing (fig. 2) the first signal to the radiating element.

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3. Claims 42-48 are rejected under 35 U.S.C. 102(b) as being anticipated by Sreenivas (Pat. No. 5,132,694).

Sreenivas teaches a satellite system including a satellite 12, a phase array antenna (10; fig. 6a) disposed upon the satellite, the phased array antenna including a plurality of assemblies, each assembly having a plurality of elements 32, 40 and a plurality of centralized beam formers (56, 80; col 7, lines 12-25) coupled to respective ones of the plurality of elements.

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claims 1-20, 32-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lier et al (Pat No. 6,411,256) in view of Petrofsky (Pat. No. 5,724,972).

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Lier et al teach a phased array antenna including a plurality of assemblies, each assembly including a plurality of elements and a plurality of beam formers (104-1, 104-2) coupled to respective ones of the plurality of elements 122. Lier et al do not teach a plurality of digitally controlled centralized beam formers. However, Petrofsky teaches a plurality of digitally controlled centralized beam formers (col 5, 30-32; col 14, lines 57-67). It would have been obvious to modify Lier et al to employ teaches a plurality of digitally controlled centralized beam formers as taught by Petrofsky into Lier et al to skew the seeds of the distributed beam formers.

With regard to claim 32, Lier et al teach a row assembly including a plurality of radiating elements 122, and a plurality of beam formers (104-1, 104-2) coupled to respective ones of the plurality of radiating elements. Lier et al fail to teach a plurality of centralized beam. However, Petrofsky teaches a plurality of centralized beam formers (col 14, lines 57-67). It would have been obvious to modify Lier et al to employ teaches a plurality of centralized beam formers as taught by Petrofsky into Lier et al to skew the seeds of the distributed beam formers.

7. Claims 50, 53-54 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

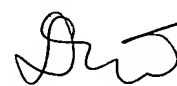
8. Claims 21-3, 57-63 are allowed.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dao L. Phan whose telephone number is (703)306-4167. The examiner can normally be reached on M-F 9:00-5:30.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tarcza Thomas can be reached on (703)306-4171. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

10. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



DAO PHAN
PATENT EXAMINER